Fig. 1

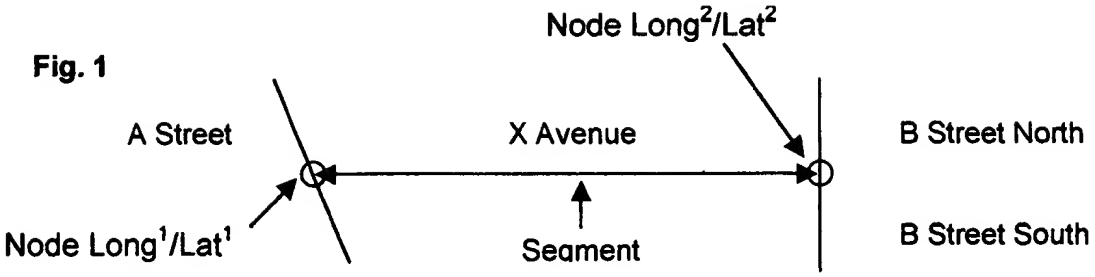


Fig. 2

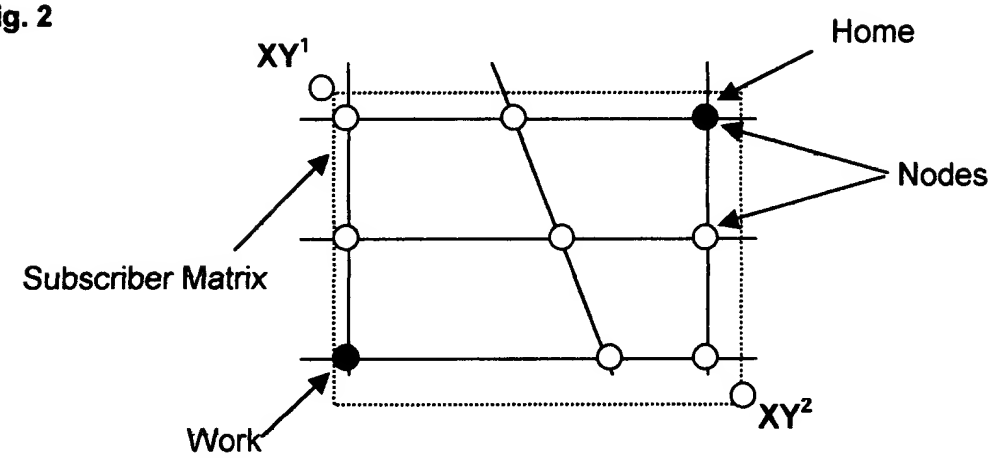


Fig. 6

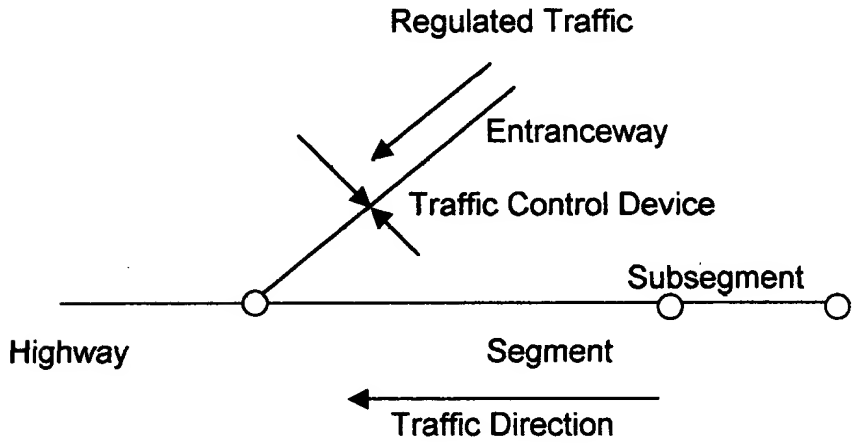


FIG. 3

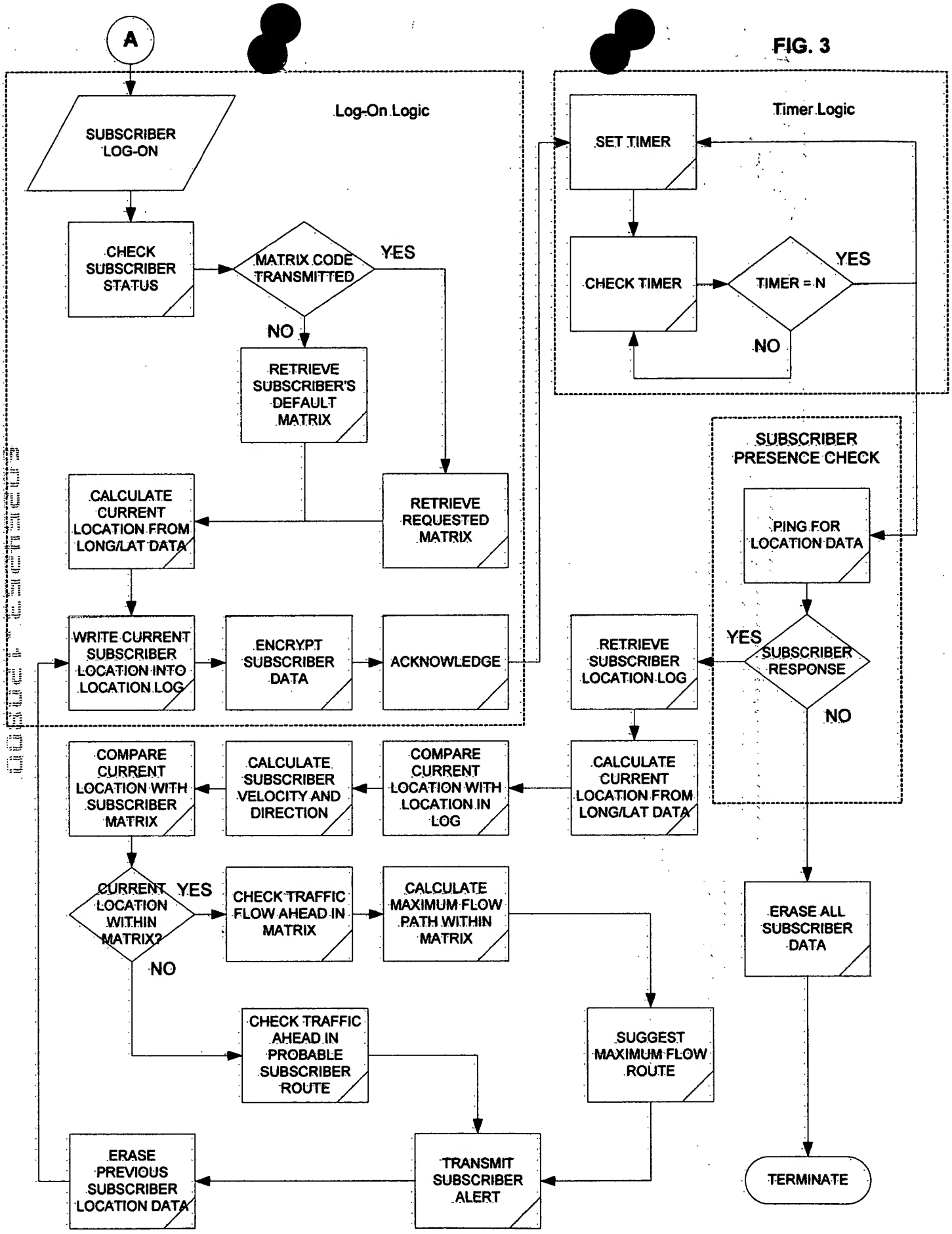

A
Log-On Logic
Timer Logic
SUBSCRIBER LOG-ON
SET TIMER
CHECK SUBSCRIBER STATUS
MATRIX CODE TRANSMITTED
YES
NO
CHECK TIMER
TIMER = N
YES
NO
RETRIEVE SUBSCRIBER'S DEFAULT MATRIX
SUBSCRIBER PRESENCE CHECK
CALCULATE CURRENT LOCATION FROM LONG/LAT DATA
RETRIEVE REQUESTED MATRIX
PING FOR LOCATION DATA
WRITE CURRENT SUBSCRIBER LOCATION INTO LOCATION LOG
ENCRYPT SUBSCRIBER DATA
ACKNOWLEDGE
RETRIEVE SUBSCRIBER LOCATION LOG
YES
SUBSCRIBER RESPONSE
NO
COMPARE CURRENT LOCATION WITH SUBSCRIBER MATRIX
CALCULATE SUBSCRIBER VELOCITY AND DIRECTION
COMPARE CURRENT LOCATION WITH LOCATION IN LOG
CALCULATE CURRENT LOCATION FROM LONG/LAT DATA
CURRENT LOCATION WITHIN MATRIX?
YES
NO
CHECK TRAFFIC FLOW AHEAD IN MATRIX
CALCULATE MAXIMUM FLOW PATH WITHIN MATRIX
ERASE ALL SUBSCRIBER DATA
CHECK TRAFFIC AHEAD IN PROBABLE SUBSCRIBER ROUTE
SUGGEST MAXIMUM FLOW ROUTE
ERASE PREVIOUS SUBSCRIBER LOCATION DATA
TRANSMIT SUBSCRIBER ALERT
TERMINATE

FIG. 4

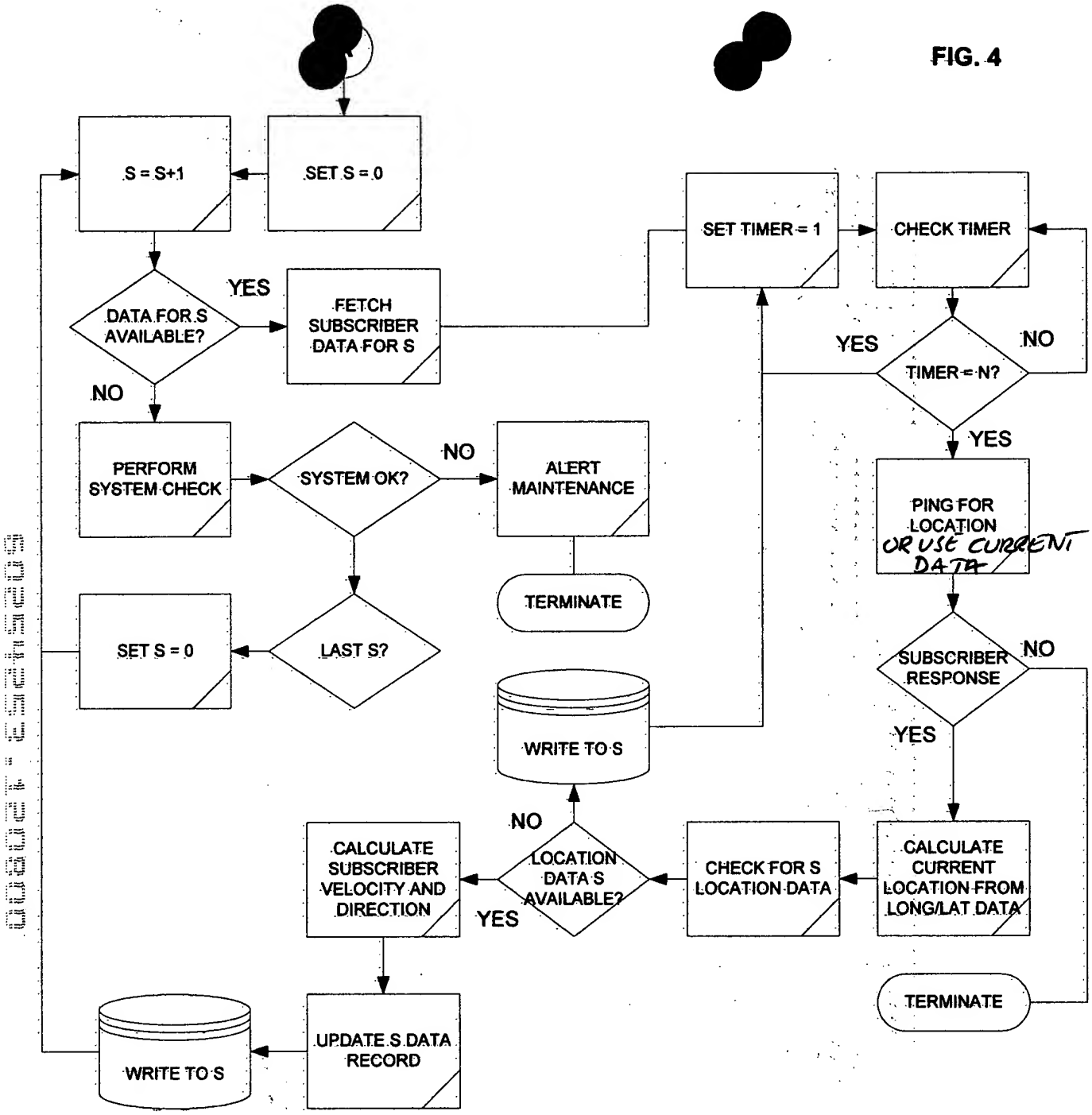
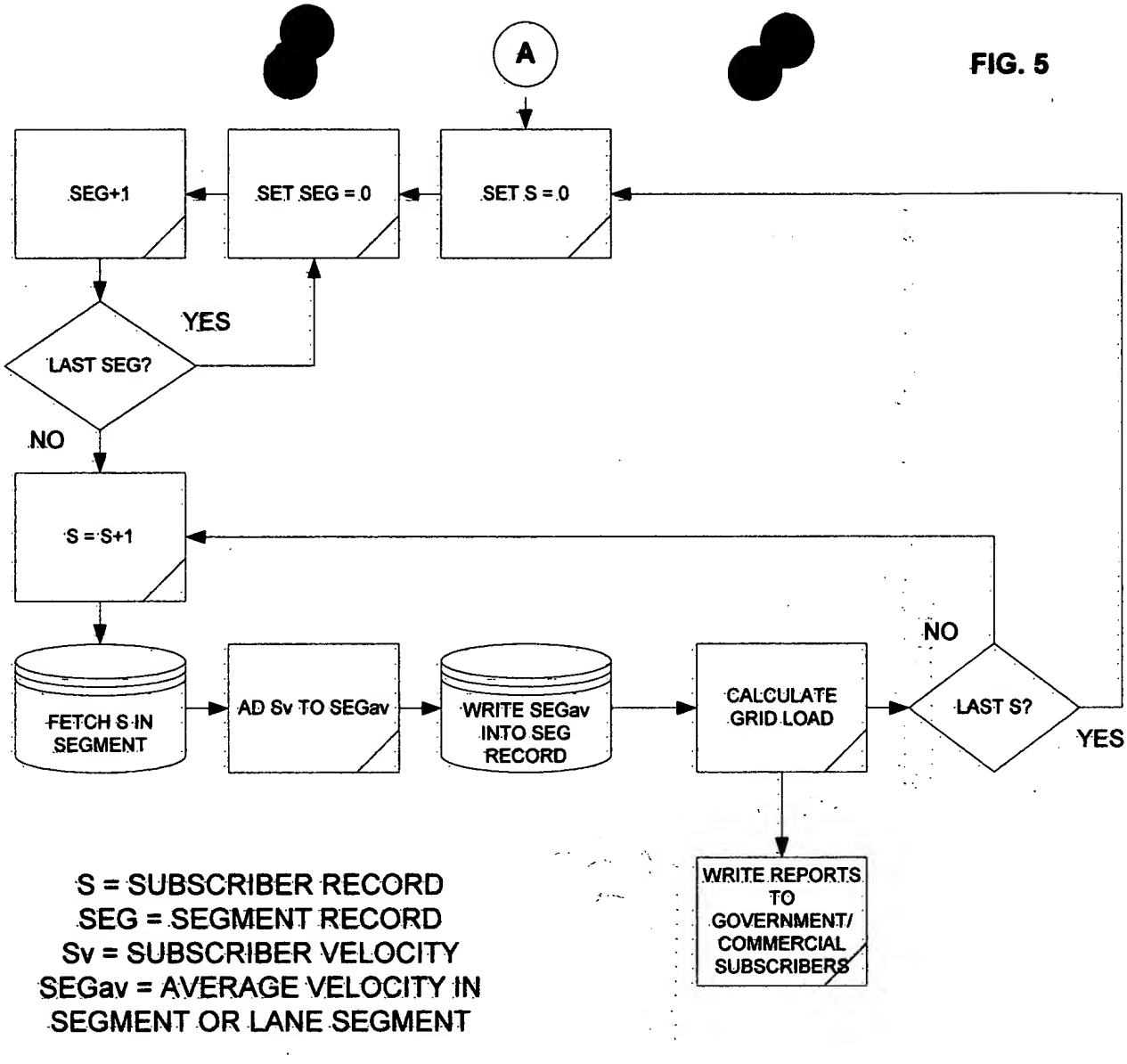

S = S+1
SET S = 0
DATA FOR S AVAILABLE?
YES
FETCH SUBSCRIBER DATA FOR S
NO
PERFORM SYSTEM CHECK
SYSTEM OK?
NO
ALERT MAINTENANCE
TERMINATE
LAST S?
SET S = 0
WRITE TO S
UPDATE S DATA RECORD
CALCULATE SUBSCRIBER VELOCITY AND DIRECTION
LOCATION DATA S AVAILABLE?
NO
YES
CHECK FOR S LOCATION DATA
CALCULATE CURRENT LOCATION FROM LONG/LAT DATA
SUBSCRIBER RESPONSE
NO
YES
TERMINATE
PING FOR LOCATION OR USE CURRENT DATA
SET TIMER = 1
CHECK TIMER
TIMER = N?
YES
NO

FIG. 5


A
SEG+1
SET SEG = 0
SET S = 0
YES
LAST SEG?
NO
S = S+1
FETCH S IN SEGMENT
AD Sv TO SEGav
WRITE SEGav INTO SEG RECORD
CALCULATE GRID LOAD
NO
LAST S?
YES
WRITE REPORTS TO GOVERNMENT/ COMMERCIAL SUBSCRIBERS
S = SUBSCRIBER RECORD
SEG = SEGMENT RECORD
Sv = SUBSCRIBER VELOCITY
SEGav = AVERAGE VELOCITY IN SEGMENT OR LANE SEGMENT